



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,032	04/14/2004	Darin P. Haudrich	022000-001700US	7376
55132 7590 12/21/2006 WILDMAN HARROLD ALLEN & DIXON LLP AND THE BOEING COMPANY 225 W. WACKER DR. CHICAGO, IL 60606			EXAMINER COUGHLAN, PETER D	
			ART UNIT 2129	PAPER NUMBER
			MAIL DATE 12/21/2006	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/825,032

Applicant(s)

HAUDRICH ET AL.

Examiner

Peter Coughlan

Art Unit

2129

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 05 December 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

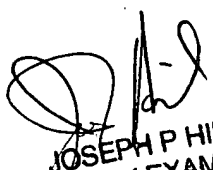
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: \_\_\_\_\_.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_.  
13. ☐ Other: \_\_\_\_\_.

  
JOSEPH P. HIRL  
PRIMARY EXAMINER  
TECHNOLOGY CENTER 2100

Continuation of 11. does NOT place the application in condition for allowance because: Where the Examiner withdraws the 35 USC §112 rejection, of claims 6 and 16, the application remains rejected for the following reasons.

Applicant claims there is no motivation to combine NMAB-497 with Spencer. Examiner disagrees due to common knowledge that neural networks are used extensively in all areas of aircraft. From design, manufacture, operation, flaw detection and repair. Both NMAB-497 and Spencer are in the field of aerospace.

Applicant states that Spencer does not teach 'input parameters relating to a repair.' Examiner disagrees. Spencer uses neural networks. To use a neural network there must be inputs to use the neural network. Thus the remaining argument of applicant does Spencer related to the repair of the structure. The word 'repair' is mentioned 84 times within the 44 pages of NMAB-497. Page 41-42 in NMAB-497 are concerned with repair with using neural networks to interpret and track damage and maintenance needs.

Claim 1 states '...input parameters associated with aeroelastic characteristics of a structure...'. P41:31 of NMAB-497 concerns with repair and input of repairs (analysis techniques) would result in 'evaluation guidelines.' Thus 'input parameters relating to the repair of a structure' of applicant is equivalent to 'evaluation guidelines for the lives of bolted repairs.'

Applicant claims there is no input module. NMAB-497 uses neural networks and to use a neural network there must exist some input node. Figure 2-3 has 'input data' row which satisfies a 'input module.'

Another argument the applicant makes is that 'neural networks' is in the paragraph above the statement 'evaluation guidelines for the lives of bolted repairs.' This is true. The complete sentence is 'Another recommendation supports the development of the signal and image processing techniques based on technologies such as expert systems, neural networks and database methods that could be used by aircraft maintenance facilities to interpret and track damage and maintenance needs.' 'Repairs' of applicant is equivalent to 'maintenance' of NMAB-497. In the specification [0004] Aeroelastic analysis is typically used in the aerospace industry to characterize aircraft and structures that form part of or that affect the stability of the aircraft. 'Interpret and track damage' (which effects stability) is parallel to 'characterize aircraft and structures that form part of or that affect the stability of the aircraft.' Therefore using the definition provided by the applicant the Examiner relates 'stability' to the condition of the aircraft. NMAB-497 uses non-destructive methods therefore, 'aeroelastic analysis' of applicant is equivalent to 'nondestructive evaluation methods' of NMAB-497.

Parallel arguments of applicant concerning claim 21 are addressed in Examiners response regarding claim 1. Using applicant definition of aeroelastic analysis concerns with the stability of the aircraft, 'evaluation guidelines for the lives of bolted repairs' is related to the 'stability' of the aircraft.

Parallel arguments of applicant concerning claim 28 are addressed in Examiners response regarding claim 1. Using applicant definition of aeroelastic analysis concerns with the stability of the aircraft, 'evaluation guidelines for the lives of bolted repairs' is related to the 'stability' of the aircraft.

Parallel arguments of applicant concerning claim 30 are addressed in Examiners response regarding claim 1. Using applicant definition of aeroelastic analysis concerns with the stability of the aircraft, 'evaluation guidelines for the lives of bolted repairs' is related to the 'stability' of the aircraft.

Claims 3 and 4 are concerned with standard computer hardware objects that have been used at least for the past 2 decades, thus the claims are not allowable

Applicant claims that the reference "Aeroelasticity of Morphing Wings using Neural Networks" is not related to "Neural Networks for Aeroelastic Analysis" is an argument with no foundation.

Applicant claims that NMAB-497 does not disclose a 'mass input'. Examiner disagrees and gave a number of examples of a change of mass. The best example would be 'corrosion' of the aircraft which would alter the 'mass' of the aircraft.

The Examiner used Kawada due to the fact it clearly explained aeroelastic analysis in terms of flutter speed at a damping value. Although Kawada is outside the aerospace industry, Kawada illustrates that a aeroelastic analysis in terms of a flutter speed at a damping value is common in everyday physics and not a novel invention by the applicant.

The Examiner used Schnetz due to the fact it clearly explained aeroelastic analysis in terms of flutter speed at a damping value. Schnetz is within the aerospace industry, Schnetz illustrates that a aeroelastic analysis in terms of a flutter speed at a damping value is common in everyday physics and not a novel invention by the applicant.